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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|------------------------------|------------------------------------|-----------------------------|
| 10/509,069 | 09/24/2004 | Anne Simone Josephine Lesage | JANS-0072 | 3249 |
| 45511 7590 05/12/2008 WOODCOCK WASHBURN LLP CIRA CENTRE, 12TH FLOOR 2929 ARCH STREET PHILADELPHIA, PA 19104-2891 | | | EXAMINER PERREIRA, MELISSA JEAN | |
| | | | ART UNIT 1618 | PAPER NUMBER |
| | | | NOTIFICATION DATE 05/12/2008 | DELIVERY MODE ELECTRONIC |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patents@woodcock.com

| | | | |
|------------------------------|--------------------------------------|--------------------------------------|--|
| Office Action Summary | Application No. 10/509,069 | Applicant(s) LESAGE ET AL. | |
| | Examiner MELISSA PERREIRA | Art Unit 1618 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 January 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,6-9,11,13-15 and 17-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,6,9,11,13-15 and 17-35 is/are rejected.
- 7) ☒ Claim(s) 7 and 8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 1-4,6-9,11,13-15 and 17-35 are pending in the application. Any objections and/or rejections from previous office actions that have not been reiterated in this office action are obviated.

Response to Arguments

1. Applicant's arguments filed 1/16/08 have been fully considered but they are not persuasive.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4,6,9,11,13-15 and 17-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Freyne et al. (US 5,541,325) in view of the combined disclosure of Srivastava et al. (US 4,764,598) and Caprathe et al. (US 6,001,331A1) and further in view of the combined disclosures of McDonald et al. (US 5,441,963) and Olney et al. (US 5,958,919) as stated in the office action mailed 10/30/07.

4. Applicant asserts that Freyne et al. requires the substituents corresponding to R² and R³ to be amino and the instant claims have been amended so that R² and R³ are not amino.

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5. Freyne et al. does teach of non-radiolabeled quinoline compounds that contain the substituents corresponding R^2 and R^3 as amino but in combination with the reference of Srivastava et al. it is obvious that radiolabeled/radioiodinated compounds comprising a heterocyclic moiety (in quaternary form), such as quinoline are useful as brain imaging agents via SPECT and for detection and evaluation of brain diseases. The quinoline compounds of Srivastava et al. contain hydrogen substituents where the corresponding R^2 and R^3 are located in the compounds of the instant claims. It would have been obvious to one ordinarily skilled in the art to utilize/prepare a quinoline core not containing amino substituents for imaging agents (via SPECT) and for detection and evaluation of brain diseases.
6. Applicant asserts that none of the references suggest that the compounds of Freyne et al. can be used to detect, mark or identify mGlu1 receptors or in the study or treatment of any psychiatric or neurological disease mechanism.
7. McDonald et al. discloses that quinoline derivatives are a therapeutic class of known NMDA antagonists and Olney et al. discloses that NMDA receptors are one major class of GLU receptors. Since quinoline derivatives inherently bind to GLU receptors it would be obvious that any quinoline derivatives, such as those of the combined disclosures of Freyne et al. and Srivastava et al. would bind GLU receptors.
8. Applicant asserts that Srivastava et al. only references quinoline compounds and fails to teach of the compounds described therein bind to any specific receptors.
9. The reference of Srivastava et al. is a patent which contains an enabling disclosure for all of the compounds provided in the disclosure, including quinoline

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compounds. McDonald et al. discloses that quinoline derivatives are a therapeutic class of known NMDA antagonists and Olney et al. discloses that NMDA receptors are one major class of GLU receptors. Since quinoline derivatives inherently bind to GLU receptors it would be obvious that any quinoline derivatives, such as those of the combined disclosures of Frenye et al. and Srivastava et al. would bind GLU receptors.

10. Applicant asserts that the compounds described by McDonald et al. are structurally dissimilar to the compounds of the present invention and bind to the strychnine-insensitive glycine binding site on the NMDA receptor complex.

11. The reference of McDonald et al. was not used to explicitly teach of the compounds of the present invention but to teach that compounds having a quinoline core are NMDA antagonists while Olney et al. discloses that NMDA receptors are one major class of GLU receptors. Therefore it would be obvious that compounds containing a quinoline core would bind GLU receptors.

Conclusion

No claims are allowed at this time. Claims 7 and 8 are free of the prior art but are objected to for depending on a rejected claim.

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MELISSA PERREIRA whose telephone number is (571)272-1354. The examiner can normally be reached on 9am-5pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Hartley can be reached on 571-272-0616. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael G. Hartley/
Supervisory Patent Examiner, Art Unit 1618

/Melissa Perreira/

Examiner, Art Unit 1618

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